

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (original) An isolated nucleic acid molecule encoding a polypeptide having PhzO activity selected from the group consisting of:

(a) a nucleotide sequence as given in SEQ ID NO:1 from nucleotide 76 to nucleotide 1564 or from nucleotide 89 to nucleotide 1564;

(b) a nucleotide sequence encoding a polypeptide having PhzO activity comprising an amino acid sequence of SEQ ID NO:2;

(c) a nucleic acid sequence having at least 50% nucleotide sequence identity with SEQ ID NO:1 from nucleotide 89 through nucleotide 1564 and wherein said nucleic acid sequence encodes a polypeptide having PhzO activity;

(d) a nucleic acid sequence encoding a polypeptide having an amino acid sequence which has at least 60% sequence identity with SEQ ID NO:2 and wherein said encoded polypeptide has PhzO activity;

(e) a nucleic acid sequence which hybridizes under medium or high stringency conditions with the nucleotide sequence of SEQ ID NO:1 from nucleotide 89 through nucleotide 1564 and wherein said DNA sequence encodes a polypeptide having PhzO activity; and

(f) a subsequence of (a), (b), (c), (d) or (e) wherein the subsequence encodes a polypeptide fragment which has PhzO activity.

Claim 2 (original): The nucleic acid molecule of claim 1 as shown in SEQ ID NO:1.

Claim 3 (original): The nucleic acid molecule of claim 1 which is contained in plasmid pUCP2.9XP or plasmid pGEM-PHZO.

Claim 4 (original): A nucleic acid construct comprising a nucleic acid molecule of claim 1 operably linked to one or more control sequences which direct the production of a polypeptide having PhzO activity in an expression host.

Claim 5 (original): A cell transformed with the isolated nucleic acid molecule of claim 1.

Claim 6 (original): A microorganism transformed with the isolated nucleic acid molecule of claim 1.

Claim 7 (original): The microorganism of claim 6 wherein the microorganism is a strain of the genera selected from the group consisting of *Escherichia*, *Enterobacter*, *Klebsiella*, *Serratia*, and *Pseudomonas*.

Claims 8-9 (currently canceled)

Claim 10 (currently amended): A method for producing a polypeptide having PhzO activity in a recombinant host, comprising the steps:

- a. transforming a host with one or more nucleic acid molecules of claim 1 [that encode a polypeptide having PhzO activity]; and
- growing said host under conditions which allow biosynthesis of PhzO in said host.